REMARKS

By the present amendment, claim 1 has been amended to clarify that the vellum part, the screened region, and the miniregions are "paper regions," that their thicknesses are "paper thicknesses" defined between the front side and reverse side of the paper, and that the transmitted light is observed through the screened region.

Support for the added recitations is immediately derived from the description of the paper thickness throughout the application, for example, at least page 4, lines 1-14, and its manufacture process, for example, at least page 5, lines 4-23.

Also, claims 2 and 12 have been amended to delete the phrase introduced by "preferably," and new claims 21-22 could be added for these recitations.

Claim 11 has been amended to replace "obtained with" by "comprising" and to delete "or document."

New claims 23-25 have been added to recite that the vellum miniregions and the reduced opacity miniregions are arranged to form a grid, and that the reduced opacity miniregions are connected by reduced opacity bridges having a narrower width than a width of the reduced opacity miniregions, or are isolated from each other, respectively.

Support for the added recitations is found in the original application, for example, at least on page 8, lines 1-3 and 22-36 of the description.

Claims 1-25 are pending in the present application. However, claims 4-10 and 13-20 are withdrawn from consideration following a restriction requirement. It is submitted that claims

21-25 depend directly or indirectly on claim 1 and belong to the elected species. Accordingly, only claims 1-3, 11- 12, and 21-25 currently are / should be under consideration.

I. Restriction requirement

In the Office Action, the restriction requirement is maintained. It is alleged in this Office Action that the document US 6,997,482 to Mathys et al. ("Mathys") destroys the novelty of claims 1 and 4 so that unity of invention is not present.

The restriction requirement is respectfully traversed for the reasons set forth below in Part II.

In addition, present claim 4 is formally dependent on elected claim 1, and claims 1 and 4 are specifically subcombination B^{sp} and combination AB^{sp}, this relationship being explicit by way of the claim dependency, so that restriction is not appropriate (see MPEP 806.05(c)(I)).

In view of the above, withdrawal of the restriction requirement and consideration of all pending claims together in this application is respectfully requested.

II. Art rejections

In the Office Action, claims 1-3 and 11-12 are rejected under 35 U.S.C. 103(a) as anticipated by, or in the alternative, as obvious over, US 6,997,482 to Mathys et al. ("Mathys").

Reconsideration and withdrawal of the rejection is respectfully requested.

Mathys uses a paper having a constant thickness, and is completely silent regarding a paper having a non-constant thickness. In particular, Figures 1A-D and 9, and the corresponding part of the specification, always define thickness as a width of printed lines in the plane of the

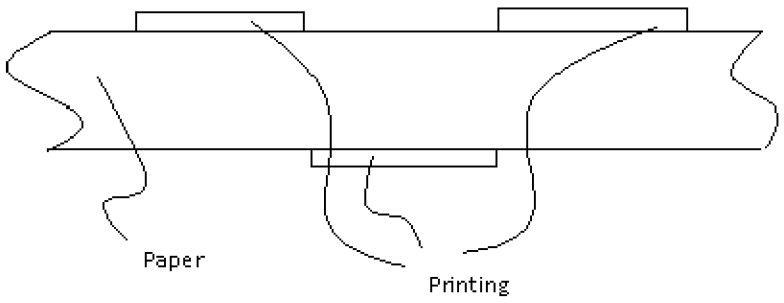
paper support (cf. Mathys at col. 2, line 66: "printed on both side of the article"). Mathys never describes or suggests printing in a region of reduced opacity due to smaller thickness.

Thus, the "screen" mentioned at col. 6, line 35 of Mathys is simply a printed grid, not a "screened region" with paper miniregions of varying paper thicknesses as in the present invention.

Also, the thick and thin lines 86 and 88 on Figs. 9A-C of Mathys do not correspond to "vellum paper miniregions" and "reduced opacity paper miniregions" because the paper of Mathys has a uniform paper thickness between its front side and its reverse side. Thus, the various widths of the printed lines 86 and 88 do not provide any zone of reduced paper thickness in the paper of Mathys.

Even if, arguendo, Mathys was interpreted as including extra thickness due to printing on a constant thickness paper, this would be different than printed patterns in a screened region, because (i) the printed area of Mathys would not have an average overall opacity less than a an opacity of the vellum part of the paper, and in addition, (ii) the printed area of Mathys would not have reduced opacity paper miniregions having a smaller paper thickness as compared to the vellum paper miniregions, and finally, (iii) the indicia being interpreted as included in the paper thickness, there would be no printed indicia on the front side and on the reverse side of the screened region of said security paper.

In summary, the uniform thickness of the paper of Mathys can be illustrated as follows:



In contrast, in the presently claimed invention, the vellum part, the screened region, and the reduced-opacity miniregions are "paper regions," and their thicknesses are "paper thicknesses" defined between the front side and reverse side of the paper, as recited in present claim 1.

Thus, the security paper of the presently claimed invention includes:

- a first paper portion which is a vellum part having a first paper thickness,

- a second paper portion which is a continuous screened region consisting of alternations of

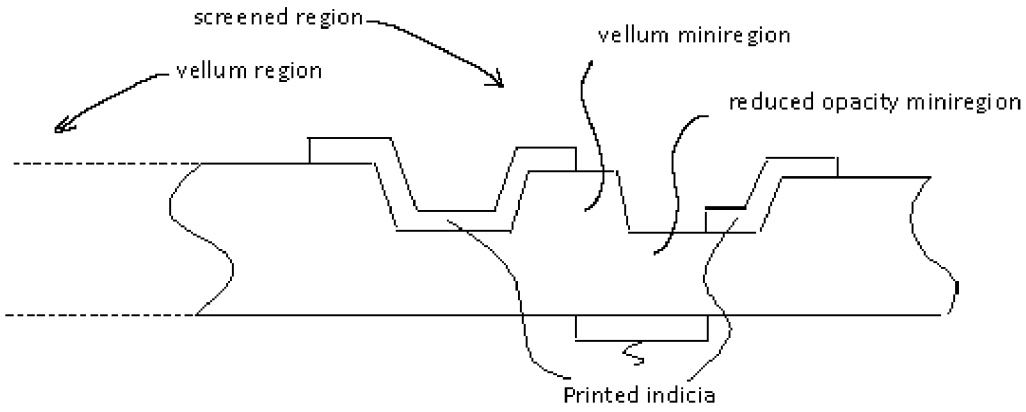
(i) vellum paper miniregions, having an approximately constant paper thickness equal to the first paper thickness of the vellum part of the paper, and

(ii) reduced opacity paper miniregions, having a smaller paper thickness as compared to the vellum paper miniregions, and

- printed indicia on the front side and on the reverse side of the screened region of said security paper.

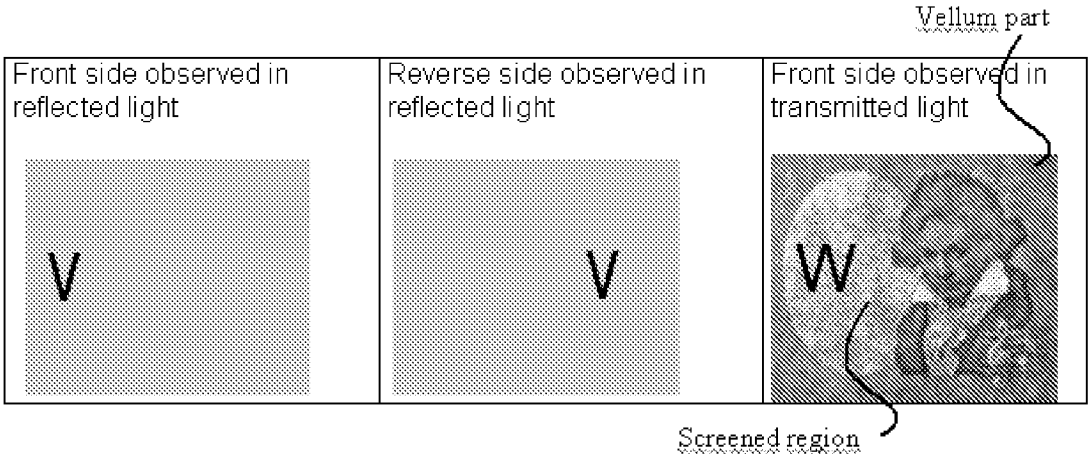
According to the presently claimed invention, the paper miniregions are of reduced opacity because of their smaller thickness as compared to the vellum paper miniregions. Thus, the screened region has an average overall opacity less than the opacity of the vellum part of the paper. The indicia form patterns that are observed in reflected light and said patterns make up a final representation that is observed in transmitted light through said screened paper region. In this way, a security element protecting against two-sided copying is obtained.

A non-limitative example of the present invention can be illustrated as follows:



On the above illustrative drawing, it is seen that the screened region includes the reduced opacity miniregions, so that the screened region has an average opacity less than the opacity of the vellum part. Indicia are printed on the front side and on the reverse side. They are visible in reflected light respectively as a front side pattern and a reverse side pattern. In transmitted light, both front side and reverse side indicia are visible and form a final representation.

A non-limitative example of patterns could be a “V” seen in reflected light at the front side and reverse side, forming a final representation of a “W” seen in transmitted light in the screened region of reduced average opacity, as illustrated below:



An advantage of the presently claimed invention is that the screened region with vellum paper miniregions and reduced opacity paper miniregions make it possible to have a reduced average opacity in the screen region while maintaining appropriate strength in that zone for a security paper, and the indicia on the front side and on the reverse side make it possible to provide easily identifiable patterns in reflected light and final representation in transmitted light through the reduced average opacity screened region.

The present invention improves security papers, for example, by making it easier to authenticate more complex patterns, as explained in the present specification, for example, at page 3, lines 19-26. This is not possible with the paper of Mathys, in particular because the strength of the paper of Mathys must be significantly reduced, otherwise authentication of the patterns through the full-thickness (vellum thickness) of the paper of Mathys remains difficult.

The features of the presently claimed invention and their advantages are not taught or suggested in Mathys, and Mathys fails to provide any incentive or motivation to adjust paper thickness, let alone in regions and in combination with indicia as in the screened region of the

presently claimed invention. Therefore, the present claims are not anticipated by, and not obvious over, Mathys.

In addition, with respect to the dependent claims, it is submitted that the combined features of each of the dependent claims are not taught or suggested in Mathys.

In particular, with respect to each of claims 23-25, Mathys is completely silent regarding vellum miniregions and reduced opacity miniregions arranged to form a grid, regarding reduced opacity miniregions connected by reduced opacity bridges having a narrower width than a width of the reduced opacity miniregions, or isolated from each other, respectively.

Therefore, each of the respective dependent claims, and in particular, each of claims 23-25, is not anticipated by, and not obvious over, Mathys.

In view of the above, it is submitted that the rejection should be withdrawn.

Conclusion

In conclusion, the invention as presently claimed is patentable. It is believed that the claims are in allowable condition and a notice to that effect is earnestly requested.

If there is, in the Examiner's opinion, any outstanding issue and such issue may be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

If this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of the response period. Please charge the fee for such extension and any other fees which may be required to Deposit Account No. 50-2866.

Respectfully submitted,

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